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HOUSE OF REPRESENTATIVES
Standing Committee on
Communications, Technology and the Arts

INQUIRY INTO

THE FUTURE OPPORTUNITIES FOR AUSTRALIA'S FILM, ANIMATION, SPECIAL EFFECTS AND ELECTRONIC GAMES INDUSTRIES

Submission by Creative Industries Research and Applications Centre (CIRAC), Queensland University of Technology

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ABOUT CIRAC

The Creative Industries Research and Applications Centre (CIRAC) contributes to the research and applications needs of the creative industries - locally, at a state level, nationally and internationally. The Centre aims to:

- *Map the growth and dynamics of the sector to show the extent and value of the creative industries in Australia and overseas;*
- *Assist the growth and diversification of creative applications in the new information economy, providing know-how and facilities to partners from government to micro-business;*
- *Produce both creative IP for commercialisation, and cutting-edge industry-oriented research;*
- *Contribute to the development of the Creative Industries Precinct, working with co-locating partners;*
- *Work towards Co-operative Research Centre (CRC) status for a consortium dedicated to Research and Development leadership in this emergent industry sector.*

CIRAC's submission includes the following attached documents as appendices:

1. *Creative digital industries in Australia: innovation in quantitative and qualitative mapping*
   Creative Industries Research and Applications Centre-National Office of the Information Economy –Department Communication Information Technology and the Arts-Australian Film Commission ARC Linkage application 2003 round.
2. *Creative Industries –from Blue Poles to fat pipes*
   Prof John Hartley and Prof Stuart Cunningham
3. *Culture, Services, Knowledge or Is content King, or are we just drama Queens?*
   Prof Stuart Cunningham, address at Communications Research Forum 2002
4. *QUT CRC for Interaction Design*
   Prof. Jeff Jones
5. *Tales from the Frontier, Marion Jacka*
   Australian Film Commission, Sydney, Creative Industries Research and Applications Centre, Brisbane, and Australian Key Centre for Cultural and Media Policy, Brisbane.

TERMS OF REFERENCE

a) the current size and scale of Australia's film, animation, special effects and electronic games industries;
b) the economic, social and cultural benefits of these industries;
c) future opportunities for further growth of these industries, including through the application of advanced digital technologies, online interactivity and broadband;
d) the current and likely future infrastructure needs of these industries, including access to bandwidth;
e) the skills required to facilitate future growth in these industries and the capacity of the education and training system to meet these demands;
f) the effectiveness of the existing linkages between these industries and the wider cultural and information technology sectors;
g) how Australia's capabilities in these industries, including in education and training, can be best leveraged to maximise export and investment opportunities; and
h) whether any changes should be made to existing government support programs to ensure they are aligned with the future opportunities and trends in these industries.

The key elements of our submission respond to your terms of reference:

a) *The current size and scale of Australia's film, animation, special effects and electronic games industries;*

Knowledge of the size and scale of these industries suffers from a lack of appropriate data and methods of data collection. Appendix 1 *Creative digital industries in Australia: innovation in quantitative and qualitative mapping* is an extract from a current CIRAC application for funding to address these issues. We have also conducted the following projects that address these issues:

- Brisbane's Creative Industries 2003 BCC/CIRAC http://www.creativeindustries.qut.com/research/cirac/documents/bccreportonly.pdf
- Creative Industries in Qld Cluster Mapping and Value Chain Analysis ARC Linkage

2002-2004 (partners Department of State Development, Arts Queensland, Brisbane City Council)

- Regional development of audio-visual industries in the Northern Rivers ARC Linkage (partners Northern Development Task Force: Northern Rivers Screenworks)

b) *The economic, social and cultural benefits of these industries*

The benefits of these industries need to be understood in contemporary new economy terms. Traditional modes of understanding the arts and broadcast media are not necessarily the most appropriate terms. Appendix 2 *Creative Industries –from Blue Poles to fat pipes* addresses this issue in detail.

c) Future opportunities for further growth of these industries, including through the application of advanced digital technologies, online interactivity and broadband

The future opportunities for Australia's film, animation, special effects and electronic games industries are linked to understanding in more empirical detail the attributes and outputs of creative industries. Appendix 1 *Creative digital industries in Australia: innovation in quantitative and qualitative mapping* details the complex issue relating to data collection (cf DCITA's Creative Industries Cluster Study Stage 3 Data and Statistical Industries consultancy, on which we are providing expert commentary on for DCITA)

d) The current and likely future infrastructure needs of these industries, including access to bandwidth

Opportunities for content providers within Australia's film, animation, special effects and electronic games industries include material for various media platforms and the creation of original material specifically for broadband internet services. Marion Jacka details this in Appendix 6 *Tales from the Frontier.*

e) and f) *The skills required to facilitate future growth in these industries and the capacity of the education and training system to meet these demands; and the effectiveness of the existing linkages between these industries and the wider cultural and information technology sectors*

The nature of sub-sectors of creative industries in particular geographical locations (internationally, nationally and regional) enable us to understand interdependencies, both tangible and intangible, that promote innovative practices. Until recently the opportunities provided by clusters of creative industries (including film, animation, special effects and games) has been neglected, with more attention being focused on remedial support mechanisms for existing industries. The links between actors in these sectors are multifarious but generally speaking uncoordinated and do not achieve strategic scale and profile befitting the importance of the sectors to Australia's economic and cultural future. Appendix 5 details a major intervention in this situation. The Australasian Centre for Interaction Design, the new CRC and the first in the CRC program that addresses directly

the issue of content creation in an R&D/innovation system, will broker links and provide strategic assistance to SME sector and link large and small etc

g) *and h) How Australia's capabilities in these industries, including in education and training, can be best leveraged to maximise export and investment opportunities; and whether any changes should be made to existing government support programs to ensure they are aligned with the future opportunities and trends in these industries*

Appendix 1 *Creative digital industries in Australia: innovation in quantitative and qualitative mapping* argues that creative digital industries constitute an arena in which to test Australia's capacity for national innovation, not only in identified creative sectors but also in the context of creative industries **inputs into**, or **enablers of** the wider service industries. There is a role for government as a market organiser here as well as a provider of infrastructure.

The tensions between cultural, industry development and R&D need to be fully understood and worked through. Appendix 3 *Culture, Services, Knowledge or Is content King, or are we just drama Queens?* details the challenges for current Australian policies to deal with these sectors. The paper argues that culture is where most policy development has occurred over decades; industry development being applied in some but not all sectors, while R&D policies are virtually terra nullius but need to be changed to embrace these sectors.

Appendix 1

1. Extracts from

Creative digital industries in Australia: innovation in quantitative and qualitative mapping

(Creative Industries Research and Applications Centre-National Office of the Information Economy –Department Communication Information Technology and the Arts-Australian Film Commission ARC Linkage application 2003 round)

The term 'creative industries' was first articulated in 1997 as a way of integrating sectors of the British economy in which creative intangible inputs add significant economic and social value. It is now widely used in Europe, East Asia, and Australasia (CITF 1998, 2002; NOIE 2002; HKTDC 2002; ERC 2002; MOEA 2002; Creative Industries NZ (2002)). It has even been taken up increasingly in the US, typically resistant to such European and dominion trends (Caves 2000; Mitchell et al 2003), where its significance as an indicator of wealth creation has been championed by one of the most powerful brokers of the US 'entertainment industries', Motion Picture Association boss Jack Valenti (Valenti 2002).

The significance and the dynamic growth potential of the creative industries are therefore well established. The internationalisation of the concept of creative industries is predicated on its capacity to connect key contemporary policy drivers: high-tech information and communications technologies (ICT)-based R&D (*production* in the new economy) and the 'experience' economy, cultural identity, and social empowerment (*consumption* in the new economy). At the same time robust academic debate exists in relation to the putative economism and narrow economically-focused views of creativity in the field (McNamara 2002; O'Regan 2002; Pratt 2002).

In the six years since the inception of the term, cutting-edge policy and industry research debates have moved towards a re-defining of attributes and outputs of creative industries. There is an emerging debate about the **creative industries as an R&D sector** (Cunningham 2002; Hearn, Cunningham, Jones 2003; FRST 2003; Delvenia 2001), and how particular creative sectors might benefit from innovation policy programs. A significant outcome from this is Australia's first Cooperative Research Centre focused on R&D in creative content and applications, the Australian Centre for Interaction Design, with QUT Creative Industries as lead site, beginning in 2003.

While a high degree of unanimity exists as to the broad scope of the creative industries, overly inclusive definitions - such as those including the generation of scientific patents, designs or trademarks (Howkins 2001) – are now less tenable. We are therefore witnessing a **sharper focus on particular sub-sectors of creative industries** in different locations and jurisdictions. In this internationalising landscape New Zealand concentrates on screen production, music, design, digital content, and publishing; Hong Kong focuses on advertising, architecture, design, publishing, IT services, as well as conventional and digital entertainment; Singapore on adding culture and creativity in education to its ICT preeminence; and Korea is focusing on broadband media applications, film and associated major infrastructure.

In Australia national policy - and to a significant extent state and local policies - have begun to concentrate on **creative digital industries (CDIs).** Concurrently there is also interest in mapping creative industries **inputs into**, or **enablers of** the wider service industries. For instance, design is seen as an enabler of communicative and branding strategies of finance or education, or as providing essential inputs in tele-health, modelled on the *ICT-as-enabler* paradigm. There is also

priority focus on applied policy interventions, necessarily preceded by 'mapping', by which we mean testing internal dynamics; informal-formal economy or 'relational assets' (Gibson *et al* 2002; Storper, 1997); and the distinctiveness of the creative industries that differentiate them from conventional commodities (Caves 2000). This is the place of this project.

The **aims** of the project are:

1. *Advancing the understanding of the size, scope and structure of creative industries in Australia by undertaking major quantitative mapping and statistical definitional collection processes in order to map dynamic interactions in the creative digital industries* (see E4 Stages 1, 2)
2. *Testing and measuring the nature of creative inputs into service sectors such as education, health, government or business services (E4 Stage 3).*
3. *Testing the provenance of cluster and related theory by investigating how hot spots of creative digital industries (CDIs) have developed* (E4 Stage 3), *or could be developed* (E4 Stage 4).

SIGNIFICANCE AND INNOVATION

This project constitutes the advancement of a program-style series of related projects that are innovative in mapping the dynamics of creative industries' structure, networks and growth potential. These projects have resulted in cutting-edge questions, debates and methods. QUT CIRAC's ARC-funded research projects in this field currently focus at state (Queensland), sub-national region (Northern Rivers), and international (including China) levels. This project's focus is the **national level**, working closely with the **key policy development agencies, at a national level, at the digital end of the creative industries field**: the Department of Communications, Information Technology and the Arts (DCITA), the National Office for the Information Economy (NOIE), and the Australian Film Commission (AFC). The project builds on the work by and for DCITA and NOIE in the *Creative Industries Cluster Study Stage 1 report* (NOIE 2002) and the Stage 2 report *Producing Digital Content* (Cutler&Company 2002).

The project is significant in focusing on a specific high growth sector of the Australian creative economy: the **creative digital industries**. This sector has been identified by this project's industry partners, as being of strategic value to Australia. The range of products and services that are captured by this term are extensive and include: *interactive multimedia, digital film and television production* and *post-production*, *interactive and digital television*, *digital video arts production*, *computer and online games, design and advertising*, *educational content production*, *digital publishing*, *digital and online music*, and *digital applications*.

The creative digital industries are exemplary forms of **knowledge-based production**. The knowledge-based network mode of production indicates an increased focus on user-producer relations. In this context the 'qualities' of creative digital products and services draw upon specialized resources and modes of production, for instance, via **communities of specialists** that are able to redesign such products and services rapidly for different clients (Storper 1997). These communities will often include end users of products and services. This is most evident in the electronic games industry but is also indicative of the nature of creative industries more generally (NOIE 2002; Rimmer, 2000; Roodhouse and Taylor 2000).

However, does the key role of communities of specialists demonstrate a less direct role for formal government provision of R&D and a greater dependence on more complex relational links to stimulate innovation within and across the creative digital industries? Research has demonstrated that in many industry sectors that are based upon network forms of production, linkages and interdependencies play an important role in organising relationships that create environments of stimulation, enquiry and the sharing of ideas. Storper (1997) argues that regions (including specific

regions as well as the national) are subject to kinds of collective action that are heavily depended upon **untraded interdependencies** as much as traded dependencies. This project excavates the dynamics of these communities and describes their role in productivity and employment.

International research has indicated that while there is a relative decline forecast in supply of ICT devices, systems and networks, there is high growth predicted in employment and output for core info-intensive and communication industries. These include the above mentioned dedicated products and services, which are typified by inputs based on knowledge, creativity, and differentiation in contrast to mass produced goods and services (Preston 2001). Industry development strategies adopted elsewhere in the world (MKW 2001) have led to significant growth in such creative digital industries, and this growth has drawn heavily upon harnessing innovation through targeting users of dedicated products and services. Further it is predicted that digital content and applications will figure prominently as high growth sectors into the medium term future; their development has been identified as a priority goal in Australia's National Research Priorities and as key sectors for innovative industry development strategies (see E6).

In this sense the project's significance lies in its examination of emerging innovative clusters and creative digital outputs that add value to Australia's position as a player in the global marketplace. The focus on digital outputs leads the team to investigate the kinds of products that are innovative and sustainable within the context of technologies, organisations and territories. In particular there is a need to frame the current spatial distribution of firms, suppliers, and human capital within emerging innovation systems that sustain branching technologies and deliver different *types* of outputs, including standardised, specialised/personalised and generic products.

The aims of the project are significant and innovative for the following reasons:

Aim 1: quantitative mapping and statistical definitional collection processes. The role of **quantitative mapping** is critical to understanding the dynamics of creative digital industries. This is a major development. Australia's response to the potential benefits of creative digital industries has been fragmented and small while many of Australia's adjacent neighbours have invested heavily in these sectors (NOIE 2002; HKTDC 2002; ERC 2002; MOEA 2002). **Testing of data collection models** specific to the creative digital industries will aid this understanding, resulting in more workable measurements of creative inputs in production of digital goods and services. The collection of data will also test the extent to which the production of specific types of creative digital products and services are embedded within network forms of production. For instance, it will determine the extent of freelance production - particularly in start-up companies (MKW 2002), and the value of creative digital content across, and within a range of industry and service sectors. A two stage process: first, mapping the creative digital industries broadly and secondly fine-tuning an existing survey instrument to specific industry sectors will enable a comprehensive analysis of markets and growth factors.

Aim 2: Testing and measuring the nature of creative inputs into service sectors such as education, health or government. As we have shown, cutting-edge policy in this field is increasingly focused on creative inputs into broader service industries. This means that the project also captures the value of **creative inputs into services not directly associated with the creative sector** (such as education, health or government). This will include an examination of firms and activities not traditionally grouped together, the dynamics of interaction among these firms, types of digital outputs in such non-core creative industries, capturing among other things the extent of knowledge spillovers from creative activities and associated enterprise dynamics. This poses **significant methodological challenges** (see E4) yet is a crucial element in substantiating claims

that creativity is needed ‘across the board’ in the new economy. Execution of this aim constitutes a major innovation because it has not been attempted before.

Aim 3: Testing of the provenance of cluster and related theory. Clustering is often promoted as an optimum solution to development of regional industries (Scott 2000; Landry 2000; Florida 2002; NOIE 2002; BCC 2003). Scott has drawn attention to the potential reduction of transaction costs that accrue from clustering in ‘image-producing industries’ while Richard Florida (2001) has linked creativity to place in so far as the ‘creativity indexes’ of cities are enhanced by attracting ‘grey-matter’ migrants and ‘independent’ cultural entrepreneurs. Cluster thinking has a heavy dependence on Porter’s original work (1998) on competitive strategy, but there has been less examination of cluster dynamics in creative industry sectors. A key finding of the NOIE Cluster Study 1 was that there were significant changes in creative industries in relation to digital technologies that allow forms of **virtual clustering** to emerge.

This project will examine further the applicability of cluster theory to the digital creative industries. Re-evaluation of clustering policy through quantitative assessments of the size and value of creative digital industries sectors is necessary in order for policy to address the issue of Australia’s positioning in the global marketplace. Current mapping projects such as the Queensland study (Cunningham *et al* 2003) have delivered important findings that have rehearsed the asymmetrical nature of proximity in specific creative industries. The point is that there are advantages that flow from clustering in relation to spillovers but that these are hard to measure. While clusters are important in contributing to the degree of interdependence, specialisation, and risk minimisation, it is also necessary to examine technological branching points that emerge within new industries. As Marion Jacka (2001) has argued in relation to broadband, the development of creative digital industries are very much dependent on sustainable business models being developed in what is still seen by many investors as a high-risk under-subscribed service sector. In this sense a focus on digital outputs enables a clearer demarcation of the limits to growth as much as the potential of emerging hotspots to capture niche product markets.

There is also a need to test the value of clustering to further identify the policy and industry settings that will need to be fine-tuned if creative digital industries in Australia are to be competitive within global markets. Research on technological change in creative digital content highlights the importance of innovation deriving from **understanding user-producer relations** (inter-firm, inter-industry and consumer-producer). These relations are increasingly organised as non-hierarchical, networked, and complex and are typified by relatively indirect roles for formal science and R&D but complex relational feedbacks in production systems resulting in innovation. Elaborating these dynamics in descriptive detail is an important output of Stage 3.

Appendix 2.

Creative Industries –from *Blue Poles* to *fat pipes*

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MODERNISATION OF AN IDEA

Why do we teach and research the arts and humanities in universities? What are they for?

In different historical periods or national contexts, that question will have had very different answers. Some of those answers might surprise, even horrify, people engaged in the same activities these days. We have inherited a terminology, and some deeply embedded habits of thought, that were no friend to democratisation or popular education.

Any new initiative is welcome if it can help us to recognise some of our dearly held beliefs for what they are. When the same initiative promises to make a substantial contribution to the growth and diversification of the Australian economy, so much the better.

Such is the case with the creative industries. Not only do they assist us to think anew about cultural democracy and economic development, they also allow us to think about how universities might modernise their curriculum. Without destroying its functionality, can formal education be canted around, like some creaky old windmill (that grinds out the same old chaff), towards the winds of change?

What are universities for? They could be for democratisation of knowledge; for the growth and diversification of the economy; for the renewal of creativity. What are the arts and humanities for? Here's one answer: they're for the analysis and creation of code and content in the new economy.

Conceptual uptake

'Creative industries' is an idea whose time has come. The term started life with a task force set up by the incoming Blair government in Britain in 1997. Located in the Culture, Media and Sport portfolio, it defined creative industries as:

> activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through generation and exploitation of intellectual property.

Thirteen industry sectors were identified in an eclectic list that included craft and antique markets, alongside IT software, as well as film, TV and radio, the visual and performing arts, interactive leisure software, publishing, advertising, and architecture. The task force hoovered up those industries that combined creative content with export potential.

Their work has since been updated, with a new report released just before the 2001 election. You can enjoy the fruits of their labours at http://www.culture.gov.uk/creative/mapping.html

The idea of the 'creative industries' has already developed a life of its own. Some British universities have set up centres or renamed courses and departments, including Nottingham Trent in England and Napier University in Scotland. The term is used increasingly in European policy. The first of what will doubtless be a long line of books has been published in the USA by Harvard University Press (Richard Caves's *Creative Industries*).

Meanwhile, the Queensland Government has, to the tune of $15m, supported the development of a Creative Industries Precinct with Queensland University of Technology, as part of its 'smart state' strategy. QUT has also restructured large chunks of its offerings to launch the first Creative Industries Faculty, and its associated R&D arm, the Creative Industries Research and Applications Centre.

The term is set to be much more widely used in education, the arts and public policy generally in Australia. But if the idea of the 'creative industries' is to have more than short-term impact on the imagination of policy units and their ministers, it needs to be sharpened up at the conceptual level.

Conceptually, the 'creative industries' combine – but then radically transform – two existing terms: the *creative* arts and the cultural *industries*.

This change is important. By bringing the arts into direct contact with large-scale industries such as media entertainment, it allows us to get away from the elite/mass, art/entertainment, sponsored/commercial, high/trivial distinctions that bedevil thinking about creativity, not least in the old humanities and social sciences.

Why might it be good policy to shift from 'arts' and 'culture' to creative industries? Consider for a moment where these terms come from.

Creative arts

'Creative arts' is a term associated with the subsidised or sponsored 'public' arts. It is derived from the philosophy of civic humanism, espoused by those like the Earl of Shaftesbury, writing in the early 1700s, who revived a classical distinction between 'liberal' arts (i.e. free, in the sense of civic freedom), and 'mechanical,' 'useful' or even 'servile' artisanship. His aristocratic schema was firmly based on the idea that 'trade' – commercial activity including creative work – was 'servile' or even 'slavish,' as in 'slavish imitation.'

A rather telling double standard was in operation. For Lord Shaftesbury, the 'mere Vulgar of Mankind' could not act virtuously out of public spirit, but only out of '*servile* Obedience'; and, to ensure that obedience, they 'often stand in need of such a rectifying Object as *the Gallows* before their Eyes.' (Another 'rectifying Object' was of course penal Australia.) But a gentleman educated by the liberal arts into civic virtue was in a different position. A contemporary of Shaftesbury wrote: 'publick Virtue makes Compensation from all Faults but Crimes, and he who has this publick Virtue is not capable of Crimes' (John Barrell, *The Political Theory of Painting*, Yale, 1996: 8, 19).

Commercial creativity was deemed unworthy of ‘free’ citizens, who needed independent income and leisure in order to pursue ‘public service.’ It was honourable to be a philosopher, but servile to be a house-painter. Gentlemen could only engage in creative work if it was dedicated to public rather than private ends, and only then if it represented abstract ideas, rather than merely decorated things.

Despite its aristocratic provenance, civic humanism is still a strong driving force in the rhetoric and the infrastructure of creative arts. It has resulted in the distinction between ‘fine’ or ‘serious’ arts and ‘commercial’ entertainment; and in the chronic oversupply of individual artists to an economic sector that can’t support them.

It underpins a political-cultural climate that still, after two centuries of democratisation, encourages the mass of anonymous but sovereign voters to assume that they are excluded from the world of art, simply because they don’t ‘get’ abstraction and can’t afford it either. They thereby remain unemancipated into that artistic or intellectual ‘freedom’ that is taken to be the pre-requisite for ‘liberal humanist’ citizenship.

But in Australian policy, as elsewhere, support for the arts has flowed from this hierarchical topography. It was rationalised as worthy of ongoing public subsidy because of the arts’ humanising and civilising influence over the populace. Civic humanism was *nationalised*, as it were.

In Australia we saw this process gain credence from the 1950s onwards. Why was Jackson Pollack’s *Blue Poles* such a significant national purchase? Because it celebrated ‘excellence,’ ‘individual creative talent,’ but more than anything the *civility* of Australia. It declared to the world that Australians were *free*.

Odd, since precious few of them had a clue what it meant.

Everyone is creative, just as everyone can think and cook an egg. But not everyone is an intellectual or a cook, and participation in the creative arts remained the jealously guarded privilege of a privileged few. Popularity was prima facie evidence of artistic bad faith.

The ‘creative arts’ approach, designed to recognise the genius of individual ‘star’ artists like Pollack, simultaneously ‘dumbs down’ everyone else. If the abstractions of the few are ‘noble,’ ‘worthy,’ ‘civilized,’ then the taste of the many must be ‘servile,’ ‘mechanical,’ even ‘slavish.’ Celebrating the ‘hooray!’ side of the opposition actually produces the ‘boo!’ side.

‘Creativity’ needs to be reconceptualised in line with the realities of contemporary commercial democracies. ‘Art’ needs to be understood as something *intrinsic*, not *opposed*, to the productive capacities of contemporary global, mediated, technology-supported economy. Both need to be looked for within the living practices of a multi-cultural, multi-valent population that is neither aristocratic nor dumb.

Cultural industries

‘Cultural industries’ is a term originally associated with the root and branch critique of mass entertainment by the doleful dialecticians of the Frankfurt school, such as Adorno and Horkheimer, and their more recent successors like Marcuse and Enzensberger. It signalled their disgust at ‘dumbing-down’ – which they blamed on mass industrialisation and its effects on popular culture.

The production and distribution of cultural commodities on an industrial scale was seen as a disaster. Instead of applauding standardisation as the guarantee of affordable quality, they joined with T.S. Eliot to disapprove of it as ‘cheap.’ The industrialization of culture was denounced as the commodification of ‘the human mind.’

The ‘cultural industries’ began life as a term of contempt for the newspapers, movies, magazines and music that ‘distracted’ the masses from their duty to progress the class struggle. But it re-entered the policy lexicon in the democratising and egalitarian 1970s and 80s.

Stripped of its Marxist melancholia, it was used for provincial promotionalism. It became necessary to persuade local councils and state or federal governments to support arts and culture for the economic benefits they delivered to regional communities.

Also in this period, *media* industries were taken in the direction of ‘culture.’ Popular commercial industries such as TV, film and music got branded as ‘cultural industries’ so that they could come under the umbrella of a state’s cultural policy regime.

In Australia, this saw the conjoining of arts with communications and media in one federal portfolio. This take on the cultural industries helped justify continued regulation and subsidy as it became harder to use direct industry development arguments, with the forces of globalisation working against the state ‘picking winners’ and protecting industries from free trade flows.

But even this morally neutral use of the term ‘cultural industries’ is limiting in the policy context, because it fails to *combine* art and culture, culture and creativity. It confines the sector to ‘culture’ as traditionally understood – the public arts – without taking advantage of social, technological and cultural changes that have evolved in the cultural ecology and continue to do so.

‘Creative arts’ are one thing; cultural industries like media and movies are another. Creative arts are a form of conspicuous waste; cultural industries a form of commercial exploitation. Never the twain can meet, because one side is ‘honorific,’ the other ‘utilitarian’ at best.

Creative industries

Currently a third era is emerging – that of creative industries. It’s partly a case of ‘my.democracy.com,’ as a current advertisement for Accenture has it. And it’s also a case of creativity as an enterprise sector. Creative industries emerge as the commercial, or commercialisable, applications of creativity within a democratising ‘republic of taste.’

‘Creative industries’ is a term that suits the political, cultural and technological landscape of these times. It focuses on the twin truths that (i) the core of ‘culture’ is still creativity, but (ii) creativity is produced, deployed, consumed and enjoyed quite differently in post-industrialised societies from

the way it used to be in the time the Earl of Shaftesbury.

In this context, ‘industries’ refers to economic sectors rather than to the standardised factory-process associated with heavy manufacturing industry, although some creative industries (publishing, broadcast media) do display some features of this mode of production.

Industry in general has evolved beyond that assembly-line model, especially in the knowledge-based economy and in new multi-media and interactive technology applications. The smart organisational model is Hollywood, not Detroit.

Here are not vertically integrated industrial silos, but small enterprises, flat-hierarchy, autonomy, risk-taking, project-based work patterns, partnerships and network relations with both clients and competitors.

The ‘creative industries’ are those that are oriented to the new economy, requiring creative content based on individual artistic talent, and not just computer, engineering or IT skills. The watchword is *content*, not just *code.*

Creative industries are the service industries of the new knowledge economy. Indeed, once the term is understood in relation to the existing ‘content’ industries, such as media, publishing, interactive software etc., it can be extended to any enterprise whose business is the ‘application’ of creativity.

Thus ‘creativity’ becomes a service sector, supplying high value-added inputs to other enterprises, including education (e.g. learning packages) finance (e.g. online customer interface products), tourism (e.g. theme parks – a new destination for performance artists as well as designers, musicians, curators, etc.).

The list of creative industries is not endless, but it is not restricted to existing arts and media entertainment. It extends wherever creative content is required. One important consequence of this is that the creative industries can at last emerge from the shadows of outmoded definitions of economic organization to be recognized for what they are – one of the fastest-growing and most significant hot-spots of the world economy.

NEW ECONOMY SECTOR

If we think of creative industries in this way, they can be seen as substantial components of most sophisticated economies. Creative industries activity is experiencing rapid growth, typically nearing double the rate of GDP growth in many OECD economies.

In the United Kingdom, the creative industries are stated as having revenues in the order of £60 billion and employing more than 1.5 million people. They contribute over 4% of the UK GDP and the sector is growing at almost twice the rate of the economy as a whole.

Fitting the notion of creative industries as inputs into the service industries, about 400,000 people are also claimed to be employed in ‘creative occupations’ within other industries in the UK. Here, Australian Bureau of Statistics figures show that 62 per cent of all people in what are defined as

cultural occupations are employed outside the cultural sector, and within the cultural sector itself those people with non-cultural occupations outstrip those with cultural occupations.

Countries and regions with similarities to Australia also report substantial turnover, employment and growth in sectors of the economy that fall within the purview of creative industries. In Canada, cultural industries account for some $29.6 billion in terms of GDP. New media growth in Toronto is about 20-25% p.a., with total output of about $US 700 million. A spectrum of creative industries sectors in the New England states accounted for $US 6.6 billion turnover, growing at 14%.

Hard data for Australia are not easy to come by for an emerging sector that is also a series of inputs into a range of other sectors. So, until better data are collected, it is a matter of piecing together the Australian Bureau of Statistics category of 'cultural and recreational services' – which doesn't capture new media creative industry categories – and part of the IT&T (information technology and telecommunications) sectors.

Research on the creative industries in Queensland, conduced for QUT and the Queensland Department of State Development by a consultancy led by John Rimmer in 2000, is some of the most up-to-date, albeit indicative, work in this area. We summarise it here.

Despite data limitations it is evident that there has been strong, though of course not unique, growth in the creative industries in Queensland over the past ten years. Preliminary research suggests an annual growth in cultural goods and services of seven percent, an increase in contribution to gross state product, gross mixed income and compensation to employees of 285 percent over a ten year period, and an employment increase of 42 percent in cultural and recreational services. It was the fastest-growing employment area for the five years 1995 to 1999. Conservative estimates value the overall current industry size in goods and services at greater than $5 billion p.a.

Even so, the Queensland creative industries sector is best characterised as emerging rather than fully developed. Preliminary research suggests Queensland's strengths include the presence of highly talented individuals, high levels of innovation, strong government support for the sector, competitive prices for creative outputs, and a culture that values diversity and enthusiasm.

As well, there is a sense of growing industry coherence following an increasing intensity of the networks of formal and informal contacts that knit together the participants in the creative industries. The creative industries in Queensland are characterised by an *ecology* of a large number of small firms, micro-businesses and freelance producers, some fully- and some sub-professional, alongside a smaller number of medium and large firms.

However, weaknesses include the small size of demand in the local market, lack of critical mass, softness in some key skills such as script-writing, business and marketing, lack of an entrepreneurial culture, failure to network and collaborate, remoteness from major markets, and limited access to capital.

Government, industry and the education sector face a series of policy challenges if Australia is to become a greater force in creative content applications.

POLICY CHALLENGES

Creativity and innovation is broader than science

The big picture policy breakthroughs of today – the innovation agenda, knowledge nation, smart state, intelligent island and so on – are long on SET (science-engineering-technology) and short on the rest of what makes up the new economy.

More specifically, they haven't got right the contribution of *creativity*. The Chief Scientist's report *The Chance to Change* refers to 'the rising importance of knowledge and creativity,' but his applications of it are all in SET. The Prime Minister's *Backing Australia's Ability*, in the words of Academy of the Humanities President Malcolm Gillies, is an 'old fashioned research-science document'.

In this thinking, creativity and innovation are mere attributes of other processes, in the way an engineer thinks a functional construction is beautiful. There's a 'commonsense' here that 'creativity' means 'scientists thinking creatively about innovation.'

It is not enough to assert the primacy of science, as Robin Batterham does: 'our lives would be unimaginable without science.' But equally it is not sufficient to assert, with Stephen Soderbergh (on accepting his Oscar for directing *Traffic* this year), that 'without art, life on this planet would be unendurable.' Neither formulation captures creativity as a *source* of wealth-creation and economic development.

DETYA has not helped by defining humanities and social sciences as control functions or background theory: 'These disciplines provide the organisational, management, legal, accounting and marketing knowledge bases that are critical to successful innovation. They are the source of many of our insights into the human condition broadly, and to our understanding and managing the consequences of moving to a knowledge-based economy.'

All of these formulations preserve an opposition between science and arts, industrial innovation and individual creativity. But the idea of 'creative industries' delivers a fresh angle on the old dualisms. Creative industries are an *integral part* of the new economy, not only a way to understand and manage it.

If the creative industries are so successful and commercial, why do they need policy attention? Why is it necessary to 'back Australia's ability' in these areas with government support?

The answer is that they are not like existing industries. They recombine various elements in new configurations that require both social and capital investment. They will succeed best as a result of public-private partnership.

There's a current Treasury argument that throwing money at ICT *producers* ignores economic evidence that it is the *users*, not the producers of ICT products and services, who have most to gain. But the producer-user relation is more complex and interesting than this.

There are great opportunities for wealth creation and innovation in creative *uses* of ICT output – adaptation, diffusion and popularisation. But, in the words of the UK Task Force, 'generation' as well as 'exploitation' of intellectual property is needed to grow the sector. Both 'R' and 'D' are needed to connect makers and markets.

Curriculum challenges

At the same time, substantial educational reform is needed. Take an example from the SET heartland. To achieve the Prime Minister's goal of turning kids onto science and maths, rich, innovative, games-based products that are *entertaining* will be needed. C P Snow's 'two cultures' – the gulf between science and humanities/arts – have to be reconnected if the sentiments and strategies of *Backing Australia's Ability* and packages like it are to be realised.

In universities, despite their popularity with students, and the number of graduates who go on to social, political and industrial leadership from arts and media programs, the arts disciplines have become used to playing second fiddle to the sciences and engineering, certainly in terms of funding and the academic pecking order.

But the moment has come when creativity, artistic talent and 'culture' are assuming a central position in economic and therefore government thinking. Educational institutions also need to get their minds across the implications of these changes, in order to orient their programs, research and graduates toward the exciting opportunities involved.

Instead of seeing culture as the *antidote* to contemporary commercial democracy, creativity becomes an *input* into all sorts of enterprises. Most of the talk about the new economy thus far has concentrated on infrastructure and connectivity, IT and information science. But the coming need is for creative inputs into applications and functionality, otherwise nothing will come of all that investment.

The great story-telling and image-making institutions are the 'content' industries, from Hollywood to 'garage' micro-industries in music and software applications, from the *Washington Post* to individual creative writers and web-designers. New *technologies* work when they have good *content* – a lesson that businesses have learnt the hard way in the wake of the 'tech-wrecks' and dot-com boom and bust.

Only specialists are interested in the mode of delivery, but everyone is interested in character, story, image, and song. The few are interested in connectivity; the many in customisation. Bring those two together – content and customisation – and the creative industries are born.

The arts and humanities are consistently popular for Australian students from K-12 to advanced degrees. What changes could be wrought if we were really to engage the talents and commitment of this mighty cohort in the creative industries venture?

Soft and hard infrastructure, or how to enable

The Queensland data we've quoted show that there are structural weaknesses to address in

Australia's skill base and business infrastructure.

The *new economy* has taken root in Silicon Valleys (California), Alleys (NY) and even 'corridors' (the so-called M4 corridor in western England, around Swindon). But *creative cities* tend to be 'old economy' leftovers; Glasgow, Rotterdam, Cardiff.

There's a big difference between Swindon and Cardiff. One does code, the other does content.

Swindon, on the M4 corridor, is new knowledge/information economy, with full employment, affluence, housing estates and Volvos everywhere, but very little 'cultural' infrastructure for its own citizens.

Cardiff, an hour further west on the M4, is a 'culture' city, with outlets like the Welsh national museum and opera, a fairy-tale castle, the Manic Street Preachers and the Millennium Stadium. It also boasts important cultural production in animation (*Super-Ted*, *The Goggs)*, broadcasting and newspapers. But it displays very little coherent interest in the new economy, with low connectivity and few of those wealth-creating micro-businesses at the cutting edge of emergent technology.

The question is how do you build those things up together: full employment and 'culture' – but culture understood as both an enterprise sector of a commercial democracy, and as a lifestyle opportunity for workers and citizens?

In fact that question may be easier to answer in Australia than in the UK. Capital cities like Brisbane and Melbourne can add *fat pipes* to their *Blue Poles*.

The nature of the creative industries firm is new. Government, universities and R&D players must interact with it differently. The Rimmer study confirmed the rise of creative industries micro-businesses within a web of relationships spanning the traditional arts to the new content providers.

The creative industry firm is heterogeneous, unlike the medium- to large-scale, government subsidised, non-profit seeking, high-arts-focus production companies around which much arts, cultural and media policy has modelled itself.

The creative industry firm ranges from the sole trader to large labour intensive organizations. It may be profit-seeking, but exists in complex interdependency with both the subsidised and non-subsidised sectors. While not necessarily in receipt of direct funding by government, creative enterprises may well exist within a productive arts or industry policy framework.

Essentially, public support for creative industries should take the form of small- and micro-business support strategies. These including clustering, networking and R&D facilitation. Arts-driven grant schemes based on taste judgements about aesthetics, excellence and the need to bolster audiences are no longer adequate.

For one thing such policies always assume that audiences have to be brought kicking and screaming to 'content.' But some creative industries, games and movies for instance, already have fans kicking

and screaming to get access to their content, which may be both ‘aesthetic’ and ‘excellent.’ Others need to identify and meet their markets, like any other business.

Richard Caves’ fascinating book, *Creative Industries*, studies the economic characteristics of arts and the entertainment media. He shows that they are different from many if not most other industry sectors, but nevertheless they can and should be seen as businesses if they are to be supported and facilitated properly.

FINALLY …

In March 2001 the then-Secretary of State Chris Smith, put out an update from the UK Creative Industries Task Force. A few years on, the significance of the creative industries to the knowledge economy and national wealth has been widely appreciated. Regions and cities, as well as venture capital, are providing more focused support measures. There is better career structuring, some reforms of education and training programs, and ownership of intellectual property issues for practitioners.

Backing Australia’s ability in the creative industries ought to mean that we will be able to say in a few years time, as Smith says of policy settings in the UK: ‘The creative industries have moved from the fringes to the mainstream.’ Universities can help to get them there. It’s time for the arts and humanities to take a lead.

Appendix 4
CULTURE, SERVICES, KNOWLEDGE
OR
IS CONTENT KING, OR ARE WE JUST DRAMA QUEENS?

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ABSTRACT

The paper tracks the fate of *content* as it passes across three grids of understanding: across the grid of 'culture', of 'services', and of 'knowledge'. These grids also serve as historical and/or possible rationales for state intervention in the creative industries, as well as industry's own understandings of their nature and role. While there was a cultural industries and policy 'heyday' around the 1980s and 1990s, as the domain of culture expanded, cultural policy fundamentals are being squeezed by a combined effects of the 'big three' - convergence, globalisation and digitisation – which are underpinning a services industries model of industry development and regulation. This model, despite dangers, carries advantages in that it can mainstream the creative industries as economic actors and lead to possible rejuvenation of hitherto marginalised types of content production.

But new developments around the knowledge-based economy point to the limitations for wealth creation of only micro-economic efficiency gains and liberalisation strategies, the classic services industries strategies. Recognising that such strategies won't get push up the value chain to innovation and knowledge-based industries, governments are now accepting a renewed interventionary role for the state in setting twenty-first century industry policies.

But the content (and, as sub-sector of them, the creative) industries *don't as a rule figure* in R&D and innovation strategies. The task is, first, to establish that the content industries indeed engage in what would be recognisable as R&D and exhibit value chains that integrate R&D into them. Second, to evaluate whether the state has an appropriate role to support such R&D in the same way and for the same reasons as it supports science and technology R&D.

Whither 'Content'?

While content burgeons, its specialness is waning.

As more people become 'public writers', there is a fear that journalism as a distinct profession is becoming harder and harder to sustain. Recently journalism educator Sally Begbie (2002) has proposed policing the boundaries of journalism much more stringently. She has received the cold shoulder amongst the industry gatekeepers – those who hire the talent - for her efforts.

As the boundaries between 'professional' and 'amateur' performance are breaking down and what counts as performance and celebrity in popular culture is being reinvented, the issue of what drama actually is – for example, whether scripted or not - is becoming very important to the Media Entertainment and Arts Alliance and to Australian content regulators.

There is a great hue and cry from the commentariat about the dumbing down of the BBC as it competes head to head with the rapidly expanding commercial television sector in the UK. Much much more content is claimed to have led to fewer and fewer peaks of excellence – what UK television used to be famous for.

What has happened to the heyday of the great popular dramas of the 1980s, that defined popular national sentiments leading up to the Bicentennial? In 1987, I wrote a long fan piece extolling the historical and aesthetic virtues of Kennedy-Miller's *Vietnam* as the 'Gesamtkunstwerk' of Australian television (Cunningham 1987). If I was taking liberties then with Wagnerian hyperbole, no-one is saying anything on TV today is a 'complete work of art'.

Today it is not Wagnerian, it is Orwellian – or perhaps the opposite of Orwellian, whatever that might mean. Of course, 'that' can't mean anything but - Big Brother. I'm coming back to *Big Brother* later.

We are in the era of *content*, that undifferentiated river that flows from Internet sites by their untold thousands, leaks from every radio, television, and boom box, screams from billboards, calls from newspaper headlines.

Where did that term content come from? We used to call things programs, papers, shows, films, the cinema, records, tracks, performances. Now it is all *content*.

I want to track the fate of *content* as it passes across three grids of understanding: across the grid of 'culture', of 'services', and of 'knowledge'. Think of a car or a cow going over a grid on a dusty road – will it go more or less smoothly over the bumps, or will it come to standstill, spooked by the unfamiliar ground under foot, like the cow is supposed to? So come with me on an exploratory journey as we move from grids in familiar to those in unfamiliar and contested territory.

If content is King, then does this spell the end of the specialness of media information and creative content?
of the public interest importance of information provision as 'not just another business'?
of creative content which is justified in attracting indefinitely prolonged public subsidy based on its non-market exceptionalism, aesthetic excellence and community development potential?

If content is King, then why doesn't it figure in almost any nations' innovation or research and development (R&D) agendas? Why isn't it recognised as a key driver of new economy growth and the much sought-after take-up of new technologies into business-to-consumer mass markets?

Or aren't the proselytisers of the specialness of content just drama queens? Here we are, wedded to outdated cultural nationalisms, and the preciousness of baby boomer taste formations in the face of

the evidence that those who come after us are interested in their *own* cultures not ours? Not nation-defining dramas, but reality TV; not authored texts, but branded experiences. When will we *get* the logic of globalisation and post-nationalism? And aren't we the proselytisers of the content industries drama queens also for tilting at the formidable windmills of the science-engineering-technology (SET) lobby?

Let's back track, to the first of our three grids, which also serve as rationales for state intervention in the creative industries, as well as industry's own understandings of their nature and role.

Culture

Culture is very much the home patch of us content proselytisers – where many of us grew up intellectually and feel most comfortable. Also, it has been around as a fundamental rationale for government's interest in regulation and subsidy for decades. For this reason, I am going to assume a lot about this grid and spend least time on it.

The 'cultural industries' was a term invented to embrace the commercial industry sectors – principally film, television, book publishing and music - which also delivered fundamental, popular culture to a national population. This led to a cultural industries policy 'heyday' around the 1980s and 1990s, as the domain of culture expanded. (In some places it is still expanding, but is not carrying much heft in the way of public dollars with it, and this expansion has elements trending towards the – perfectly reasonable - social policy end of the policy space, with its emphasis on culture for community development ends).

Cultural policy fundamentals are being squeezed:

- They are nation-state specific in a time of WTO and globalisation
- Cultural nationalism is no longer in the ascendency socially and culturally
- Policy rationales for the defence of national culture are less effective in the convergence space of new media. Marion Jacka's (2001) recent study of *Broadband Media in Australia* shows that broadband content needs industry development strategies, not so much cultural strategies, as broadband content is not the sort of higher-end content that has typically attracted regulatory or subsidy support (see Cunningham 2002a)
- The sheer size of the content industries and the relatively minute size of the arts, crafts and performing arts sub-sectors within them underline the need for clarity about the strategic direction of cultural policy (John Howkins in *The Creative Economy* (2001) estimates the total at $US2.2 trillion in 1999, with the arts at 2% of this)
- Perhaps most interestingly, and ironically, cultural industries policy was a 'victim of its own success': cultural industry arguments have indeed been taken seriously, often leading to the agenda being taken over by other, more powerful, industry and innovation departments (see O'Regan 2001 and Cunningham 2002b).

Services

This doesn't get talked about much in the cultural/audiovisual industries 'family', but it's *sine qua non* in telecommunications and in, well really, pretty much the rest of the economy. All OECD countries display service sectors which are by far the biggest sectors of their respective economies (the services sector in Australia is 65% of total businesses; 63% of total gross value added; and 73% of employment), and that relative size has generally been growing steadily for decades.

This is the broad sectoral basis for thinking through a new approach to industry development in the creative industries sector.

Much convergence talk has it that a potent but as yet unknown combination of digital television and broadband will become a, if not *the*, prime vehicle for the delivery or carriage of services. Education, banking, home management, e-commerce and medical services are some of the everyday services which types of interactive television and broadband might deliver.

But for the media (and especially media content) to be considered *as* part of the service industries takes the convergence tendency to a new level. For most of its history, media content, and the conditions under which it is produced and disseminated, have typically been treated as issues for cultural and social policy in a predominantly nation-building policy framework. They have been treated as 'not just another business' in terms of their carriage of content critical to citizenship, the information base necessary for a functioning democracy and as the primary vehicles for cultural expression within the nation.

In the emerging services industries policy and regulatory model (which some have also called the 'new' public interest), media content could be treated less as an exception ('not just another business') but as a fundamental, yet everyday, part of the social fabric. Rather than television's traditional sectoral bedfellows cinema, the performing arts, literature and multimedia, it is seen as more related to telecommunications, e-commerce, banking and financial services and education.

For media theorist John Hartley (1999: 140, 143), for example, television has a 'permanent' and 'general', rather specific and formal, educational role in the manners, attitudes and assumptions necessary for citizenly participation in communities. '(C)ontemporary popular media as guides to choice, or guides to the attitudes that inform choices' underpin Hartley's allied claim for the media's role in promoting 'Do-it-yourself' (DIY) citizenship.

The model carries dangers. It subjects all television systems to a normative, globalising perspective and thus weakens the specifics of a cultural case for national regulation and financial support. Its widespread adoption would see the triumph of what might be called the US regulatory model, where competition is the main policy lever and consumer protection rather than cultural development is the social dividend. The application of this model across the board is not a universal panacea for all industry regulatory problems, as most mid-level and smaller countries need to, or do, acknowledge.

However, there are also possible advantages. Hitherto marginal programming could be significantly

upgraded in a services industries model. Programming produced for and by regional interests might be as fundamental as the guarantee of a basic telephone connection to all regardless of location. The need for programming inclusive of demographics such as youth and children might be as fundamental as free and compulsory schooling. Moves in various jurisdictions, including the EU and Canada, to give greater weighting to regional, infotainment, youth and children's programming signal a shift in priority of content regulation to include these alongside a continuing emphasis upon drama and social documentary (see Goldsmith et al 2001, 2002). While the latter advance core cultural objectives such as quality, innovation and cultural expression, the former warrant greater consideration in a services industries model of media content regulation in terms of their contribution to diversity, representation, access and equity.

The Knowledge Economy

We are not nearly as comfortable with this association. This is higher up the value-adding chain than the service industry sector. I believe that our sector needs to learn to see ourselves as part of the knowledge-based economy and as an integral and arguably central part of any decent innovation/R&D agenda, and to begin to win some degree of recognition for this association. Because this is the unfamiliar grid, and we could easily get ourselves spooked, I want to spend some time on it.

From where has this new macro-focus emerged? In part, it's been around for a long time, with notional sub-divisions of the service or tertiary industry sector into quaternary and quinary sectors based on information management (4^{th} sector) and knowledge generation (5^{th} sector). But the shorter term influence is traceable to new growth theory in economics which has pointed to the limitations for wealth creation of only micro-economic efficiency gains and liberalisation strategies (Arthur 1997; Romer 1994, 1995). These have been the classic services industries strategies.

Governments are now attempting to advance knowledge-based economy models, which imply a renewed interventionary role for the state in setting twenty-first century industry policies, prioritisation of innovation and R&D-driven industries, intensive reskilling and education of the population, and a focus on universalising the benefits of connectivity through mass ICT literacy upgrades.

Every OECD economy, large or small, or even emerging economies (eg., Malaysia) can try to play this game, because a knowledge-based economy is not based on old-style comparative factor advantages, but on competitive advantage ie, what can be constructed out of integrated labour force, education, technology and investment strategies (eg., Japan, Singapore, Finland, etc).

But the content (and, as sub-sector of them, the creative) industries *don't as a rule figure* in R&D and innovation strategies. When they do, it is as last minute concessions to dogged lobbying, and are usually damned with faint praise or condescended to with benign indifference.

Let's take some of the most recent examples, from this country:

- *Backing Australia's Ability* (2001)

- *Knowledge Nation* (2001)
- Queensland's Department of Information and the Information Economy (DIIE) R & D Strategy Paper (2002)
- 'Developing National Research priorities: An issues paper' from May 2002

Knowledge Nation

'Knowledge Nation' (ALP 2001) was the Labor Party's compendium of policy options for stimulating a knowledge-based economy and society leading into the federal election in November 2001. For Knowledge Nation, the creative industries are coterminous with the arts. The result of this conflation is that recommendations for advancing the creative industries are residual at best, being lumped in with some afterthought recompense for the university's humanities and social sciences rather than upfront in the document as the sector that will deliver the content essential for next generation information and communication sector growth. (ICT is seen as one of five key knowledge-based growth hotspots of the Australian economy into the future, along with biotechnology, environmental management, medical services, and education export).

While Knowledge Nation can claim against its political rivals that 'There was not one mention of the creative industries – the arts – in the Howard government's innovation statement', the patent limitations of complete equivalence of the arts and the creative industries has at this time escaped Australian Labor.

DIIE's Qld R & D Strategy Paper

The DIIE paper (DIIE 2002) is clearer and more explicit than Knowledge Nation about the relevance of creative industries to the broad R&D field. ICT infrastructure or the 'enabling technologies' for R&D include multimedia, broadcasting, 3D and games in the paper. And 'creative retail' like the arts and entertainment are also acknowledged as 'applications fields' for R & D.

However, none of these areas, acknowledged as R&D or R&D-influenced sectors, has been targeted under an R&D label for state-level investment to this date. Indeed, the term creative industries is used only once in the entire document (section 7.5)**.**

And yet the principles on which Queensland wishes to build its R&D profile, such as opportunities to leverage private sector investment through strategic state involvements (section 6.9), and the value of leveraging existing infrastructure and traditional industries (such as the broadcasting infrastructure that exists today in Queensland) (section 4.15), could both be centrally addressed by R&D in the creative industries in Queensland.

The need to develop virtual clusters and bandwidth capacity (sections 4.25–4.27) would also be addressed in significant ways if the creative retail or consumer consumption end of demand for broadband in the broader business and consumer sectors as much as in the research community was engaged with by an R & D strategy.

‘Developing National Research Priorities: An Issues Paper’

There is a promise of integration between humanities and social sciences and science and technology in this paper, together with one paragraph containing an intention that it will be addressed in the future. But the reason given for prioritising science and technology is simply that 75% of the country’s outlays in R&D go to science and technology.

Why Should the Content Industries be Considered as a Knowledge-based Sector with R&D Integral to its Value Chains?

Worldwide, the creative industries sector has been among the fastest growing sectors of the global economy. Several analysts, including the OECD (1998); the UK government through its Creative Industries Task Force (CITF 2001); Jeremy Rifkin in *The Age of Access* (2000); and John Howkins in *The Creative Economy* (2001), point to the crucial role they play in the new economy, with growth rates better than twice those of advanced economies as a whole. Entertainment has displaced defence in the US as the driver of new technology take-up, and has overtaken defence and aerospace as the biggest sector of the US economy (Rifkin 2000: 161).

Rather than being relegated to a residual or marginal status in new economy business practice, sociologists Lash and Urry (1994) and business analyst John Howkins (2001: Ch 4) claim that creative production has become a model for new economy business practice (outsourcing; the temporary company; the ‘producer’ model of project management; just-in-time teams, etc). Rifkin (2000: 163-4) claims that cultural production will ascend to the first tier of economic life, with information and services moving to the second tier, manufacturing to the third tier and agriculture to the fourth tier.

Most R&D priorities reflect a science and technology led agenda at the expense of new economy imperatives for R&D in the content industries, broadly defined. The broad content industries (or ‘knowledge consumption services’) sector derives from the applied social and creative disciplines (business, education, leisure and entertainment, media and communications) and represents 25% of the US economy, whilst the new science sector (agricultural biotech, fiber, construction materials, energy and pharmaceuticals) for example, accounts for only 15% of the economy (Rifkin 2000: 52).

In fact all modern economies are consumption driven (60% of GDP in Australia and 62% of US GDP – see Hearn et al 1998) and the social technologies that manage consumption all derive from the social and creative disciplines.

We can no longer afford to understand the social and creative disciplines as commercially irrelevant, merely ‘civilising’ activities. Instead they must be recognised as one of the vanguards of the new economy. R&D strategies must work to catch the emerging wave of innovation needed to meet demand for content creation in entertainment, education and health information, and to build and exploit universal networked broadband architectures in strategic partnerships with industry.

Not only is R&D in the applied social and creative disciplines required for its own commercial potential, but also because such R&D must be hybridised with science and technology research to realise the commercial potential of the latter. Commercialisation depends on 'whole product value propositions' not just basic research.

Let me try out some examples on you.

Big Brother and other Innovative Multimedia as R&D 'Laboratories'

To see, as I did recently, the BBC's *Walking with Beasts* in action in its full interactive format on a digital television platform now widely adopted in the UK is to be aware of the magnificent resources of the world's foremost public broadcaster as an R&D 'laboratory'. The BBC is gearing up to do fifteen more interactive television documentaries in the next year.

Then there is a small multimedia business in inner Brisbane called Hoodlum Entertainment which has just done one of this country's first multi-platform soap operas, *Fat Cow Motel*. This is very local content R&D, backed by another relatively marginal player, the regional subscription TV service Austar. We need fifteen more Fat Cow Motels!

These are the R&D laboratories of the creative industries, as surely as CSIRO or Telstra or the Bureau of Meteorology or Siemens or Boeing or Mitsubishi have R&D labs. If they are really lucky, they get $85 million of taxpayers money if they set up R&D labs, as was the case with Mitsubishi earlier this year.

Good for Mitsubishi! Good for South Australia! But the creative industries want some of this action.

Let's take another recent, relevant but probably controversial example, the *Big Brother* reality television phenomenon world-wide, and its production franchise based on the Gold Coast this year and last year. Do the technical, cultural, broadcasting, internet, advertising, marketing and event innovations developed in the Southern Star franchise on the Gold Coast (and of course its sister events elsewhere) make it arguably the most significant single innovative event in the creative industries in Queensland ever?

Big Brother was a multi-platform, cross-promotional 'media event'. It was accessible in the traditional way on free-to-air, via the official Big Brother website with discussion forums, on unofficial fan sites. It was catchable via radio updates (30 second grabs every hour on Triple M in Australia). There was telephone voting, SMS updates to mobiles, and if you were in the UK, there was live coverage/unedited rushes on digital channel in Britain up to 18 hours a day!

There is a *Big Brother* innovation 'system':

- it is an international system, a learning system which achieves technology-transfer and format and style upgrades around the world very rapidly
- its assists in solving problems for major services industry sectors like advertisers and marketing which benefit from integrated marketing innovations

- there are technological innovations in the successful trialing of such a large-scale convergent, multi-platform delivery system
- there is industry innovation due to successful trialing of regional capacity for large-scale production.

Not convinced? What if we were to substitute the *content* of *Big Brother* for, say, a similarly-resourced experiment in the convergent, multi-platform, delivery of government services to a client base similar to that which tuned in or accessed the website or bought the products marketed through the program? If that had been the case, there is no question that a great victory for government leadership in innovation would have been claimed.

Why don't the Content Industries Figure as Knowledge Industries with R&D Needs?

Now, we can 'curse the darkness' or we can 'light a candle'. We can rehearse the reasons, deeply embedded in our Western cultures, for the chasm that separates the arts and sciences that C. P. Snow (1959) rehearsed decades ago. But let's instead 'light a candle' by trying to understand the problem from the other side, as it were.

Relevance to Smaller Economies

Let's go back to Rifkin. He claims that cultural production will ascend to the first tier of economic life, with information and services moving to the second tier, manufacturing to the third tier and agriculture to the fourth tier.

By tiers, Rifkin means both the size of the sector in the economy, and the amount of value-adding within each sector. Of course, Rifkin, like most business booster analysts, is predominantly talking about the world's biggest single economy, the United States. Many, if not most, of the world's economies lag behind or are somewhat differently constructed than the US's is.

This helps to understand why the creative industries don't figure large in industry policy and R&D, nor in discourses about the knowledge-based society or the knowledge-based economy. It is because small economies historically based on staple supply, extractive industries, and lower value-adding service industries, such as tourism, with only recent significant growth in elaborately transformed manufactures and knowledge-based emergent industry sectors, are not obeying the same rules that can be observed in the US economy.

Services versus R&D

Second, it should be acknowledged that the great majority of the 'good news' economic data adduced to point to the economic dynamism and centrality of the creative industries to the new economy are services sector data. They relate to creative retail rather than to any R&D process that may be argued to be essential to the generation of creative content.

That part of the large and growing creative industries sector which is also a part of an emerging industries sector, that is, one requiring R&D-style investment in experimental technologies or applications – the arena inscribed by the 'digital applications for creative industries' – are not big enough to justify any but marginal policy focus supported by mainstream economic data.

Not Recognised and Justified before as R&D

Both the digital applications sub-sector, and the larger sector from which it is growing, have been sectors supported by public subsidy and, in those sectors where there is a fully industrialised and commercial focus, such as film, television, games, music, Australia is a significant net importer of such product. So their dynamism has real social and cultural benefit for a country but problematically established direct economic benefits. This can be reasonably sharply contrasted with the communications and IT &T sector, which is perceived to drive significant productivity growth throughout the economy and to be a substantial sector in its own right, with greater export potential.

But a small, peripheral country cannot afford to bow to a perceived iron law of comparative advantage enjoyed by the US and the UK in creative industries pre-eminence (note that all of Howkins' (2001: Ch 3) creative industries sectors are dominated by the US and the UK, with very few exceptions). This fact is well accepted in the science-engineering-technology fields, where relative competitive advantage is *constructed* – in part through state interventions.

The government's role is to seed risky innovation in those sectors with most potential for growth and wealth creation – just as in SET R&D.

To be schematic, we progress from the cultural to the services frame by the application of contemporary *industry* policies. We progress from the cultural and the services to the knowledge frame by the application of *R&D* policies.

The *C*ommercial Nature of the Big Creative Industries

Another reason has to do with the *thoroughly* commercial nature of R & D investment in the big creative industries. There might simply not be robust enough arguments for state interventions in what are, after all, massive multinational commercial enterprises and sectors. The argument against this is essentially the same as the one above. While this may be to a significant (but by no means complete) extent true of the US economy, it is true of probably no other economy. While the private sector is the major driver of creative industries such as film, broadcasting, music, games, leisure software, architecture, and so on, smaller economies always need public sector involvements. This is reinforced by the risk-averse nature of private sector investment in smaller economies like Australia's. R&D, properly defined, for the creative industries will always be in need of public sector understanding and involvement.

The Creative Industries are Intrinsically Hybrid

The creative industries can be thought of as intrinsically hybrid in their nature. They are at once cultural, service-based – both wholesale and retail, R&D based, and part of the volunteer,

community sector. In this sense, one can make a general case for the creative industries being central in a knowledge-based *society*. But their specific, focused connection to the knowledge-based *economy*, and to public policy interventions specific to it, might, to some, remain diffuse.

Practical Problems with R&D Investment in the Creative Industries

Access to capital through seed and venture funding is often particularly difficult within this sector. Where venture capital players are looking for intellectual property that can be exploited and thereby result in substantial growth, the intellectual resources in the creative industries sectors are often the people themselves rather than a new product or service. This represents a more difficult assessment process for investors, with higher risk factors and often lower growth potential. But it could also mean that industry departments need to structure their programs of assistance better to engage this sector.

Concluding Comments

So, is content King?

If it is to be, it will probably lose its 'not just another business' tag as it is folded into a services industries generic framework.

But it certainly isn't King according to our R&D decision makers. Are we just drama queens for trying to make what might seem a quixotic gesture, tilting at the formidable windmills and lobbying prowess of science-engineering-technology (SET)?

The services model for understanding the emerging role of content is valuable, as it tells the story of the ever deeper embedding of content in the absolutely mainstream economy. But it won't get us up the value chain to R&D investment and innovation.

The task is, first, to establish that the content industries indeed engage in what would be recognisable as R&D and exhibit value chains that integrate R&D into them. Second, to evaluate whether the state has an appropriate role to support such R&D in the same way and for the same reasons as it supports SET R&D.

Major international content growth areas, such as online education, interactive television, multi-platform entertainment, computer games, web design for business-to-consumer applications, or virtual tourism and heritage, need *research* that seeks to understand how complex systems involving entertainment, information, education, technological literacy, integrated marketing, lifestyle and aspirational psychographics and cultural capital interrelate.

They also need *development* through trialing and prototyping supported by test beds and infrastructure provision in R&D-style laboratories. They need these in the context of ever shortening innovation cycles and greater competition in rapidly expanding global markets.

Perhaps we can say it better, and finally, if we say that the creative industries are simultaneously *cultural* industries delivering crucial representation, self-recognition and critique in a globalising world. They are *service* industries delivering basic information and entertainment services in a converging services environment and *knowledge* industries requiring very significant levels of R&D to continue to innovate and to provide content and applications that 'make the wires sing'.

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Appendix 5

Appendix 5: Queensland University of Technology CRC

CRC COMPANY

The CRC for Interaction Design operates as the Australasian Centre for Interaction Design Pty Ltd (A.C.I.D.) and is an incorporated company. It's core business is R&D, and commercialisation of content and technologies for Creative Industries.

BACKGROUND

The Creative Industries in Australia are worth more than $18B pa, but we are a net importer and thus need to change this position to that of an exporter. In addition, this field fuels innovation in manufacturing, health, research, defence and business processes.

ACID addresses a prominent deficiency that is both social and economic: there is no core body of researchers; there is no single identifiable industry; there is no single industry body that represents the collective interests of the diverse established and emerging core of industry constituents. Through this initiative we have ample evidence that critical mass can be harnessed and put towards these deficiencies.

ACID is a robust vehicle to build connections between consumers and industry users; content and application developers; software system developers and hardware manufacturers. The activity is focused in a relatively young research sector called interaction design.

One crucial objective of ACID is economic growth. This will be achieved through producing skilled and knowledgeable people who can create and commercialise new intellectual property, making Australasia an international hot spot for Creative Industries.

The ACID CRC research programs will develop models, methods, technologies, tools and proof-of-concepts that:

- **Demonstrate new interactive content, and hardware and software prototypes in market driven contexts;**
- **Discover how to take advantage of collaborative opportunities within the Creative Industries;**
- **Develop research for national/international companies through an SME Consortium that provides R&D services;**
- **Deploy R&D to enterprise development through the creation of flexible, transferable and reproducible processes for the commercialisation and creative capital configurations of Creative Industries businesses.**

RESEARCH THEMES AND PROGRAMS

This matrix indicates the ACID's four research themes and four industry-sponsored research programs. This intersection of the themes and programs provides an indication of potential research projects and outputs.

Research projects will be assessed for technology transfer and commercialisation opportunities from the project's inception.

Matrix of Research Themes and Programs

	Industry-Sponsored Research Programs			
Research Themes	**Smart Living**	**Digital Media**	**Multi-User Environments**	**Virtual Heritage**
Human Interactive Systems	Devices & Access	Convergence	Modes of Interaction	Immersive Systems
Tools and Creative Expressio	Content Production	New Interaction Genres	eLearning and Games	Cultural Conservation
Community Networks	Consumption Distribution	P2P vs. Broadcast	Multi-user Interaction	Access and Availability
Creative Capital a Commercialisation	Sustainable Business Models	New business Models	Multi-platform Convergence	Sustainable Distribution

SMART LIVING

The Smart Living Program will develop a series of test sites to allow researchers, educators, property developers, telecommunication companies, and media channels to explore new forms of human interaction using emerging technology applications in functioning communities. It will also provide the functional underpinnings of (possibly several) ongoing massively multi-user online social experiments aimed at producing profitable technology during its development.

DIGITAL MEDIA

The Digital Media Program will focus on methodologies and technologies that facilitate R&D and commercialisation of emerging content technologies. It has direct relevance to broadband and multi-platform content delivered on existing and new hardware and software platforms; media requirements of the ACID's key industries - games and entertainment, eLearning, digital communities, and collaborative workspaces.

MULTI-USER ENVIRONMENTS

The potential has been identified for the incorporation of multi-user environments into the work and education practices

of many industry sectors and the broader community. ACID has identified a gap in R&D for real-time, online collaborative environments.

VIRTUAL HERITAGE

The Virtual Heritage Program will draw upon a significant indigenous population, multi-cultural environment and Asian context to provide a rich array of opportunities for:

- the capture of geographic and social heritage
- the imprinting of captured heritage into the social and economic fabric
- the commercialisation and use of Australian heritage.

COMMERCIALISATION

Commercialisation of ACID's outcomes may be found in full products, components or new enterprise spin-offs. ACID's CRC commercialisation strategy is based on the need of the researcher/inventor to understand the commercialisation process and resultant outcomes, in order to fully appreciate their options. An Education Program will enable the researcher/ inventor to be educated on and consider these options from the time the research is first proposed.

Appendix 6.

Tales from the Frontier, Marion Jacka report on Broadband in Australia

Produced for
Australian Film Commission, Sydney,
Creative Industries Research and Applications Centre, Brisbane, and
Australian Key Centre for Cultural and Media Policy, Brisbane.

Overview

The focus of this report is the creation of local content in the emerging broadband media environment. The starting point for the project was an interest in examining the ramifications of convergent trends for Australian content creators. The report examines:

- the progress made with the establishment of new entertainment services;
- the kind of content these new services are providing; and
- the ramifications for local content providers.

The report unashamedly takes the view that the presence of Australian voices, images and perspectives on the media screens of the future will be an important part of the digital revolution, delivering the promise of enriching and better informing our society. Convergence will increasingly place media, communications and information at the centre of most people's lives. As well as international material, we need to access and share local experiences and stories. While this is a fairly uncontroversial objective, there is considerable debate about how it can be achieved. This report aims to make a contribution to the debate by taking a practical look at some major current developments and their ramifications with regard to local content creation and delivery.

The report draws on published Australian and international sources as well as interviews with key industry personnel in Australia, including executives of established production companies and new media companies, and senior personnel in broadband and broadcasting services. Twenty-four interviews were conducted over the second half of 2000, with some of these being followed up and developments monitored in the first half of 2001.

The report is divided into six chapters. The content of these chapters is as follows:

- Chapter 1 discusses convergent developments and trends and contains a snapshot of the main developments in Australia.
- Chapters 2 and 3 discuss broadband Internet and interactive television developments internationally and in Australia.
  • Chapter 4 examines cross-media content, content created specifically for online distribution and new distribution mechanisms for traditional linear content.
  • Chapter 5 deals with the involvement of the established independent film and television production sector in new media by drawing on a number of case studies. It also looks at some examples of companies which are creating content specifically for the Internet.
- Chapter 6 provides an overview of support in Australia for new media content production by the public broadcasters and film support agencies.

Australia is on the verge of embracing broadband communications, with the emergence of broadband Internet content services and the introduction of digital television, both of which could lead to multichannelling and new interactive television services. Internationally, developments in broadband communications are leading to new interactive, hybrid forms of content, delivered through the television set and the personal computer (PC). At the same time, more outlets for traditional linear programming are opening up with the introduction of new digital channels and video-on-demand services.

Media services are said to be converging — interactivity is coming to television, and the Internet is developing into an entertainment platform. It is generally felt that different delivery platforms are suited to different uses, and most observers believe that television and the Internet will, in many ways, pursue quite distinct paths. Television is likely to remain the dominant entertainment medium, although it may be altered by the addition of niche channels and interactive services. We are seeing the emergence of an interactive content industry developing alongside the traditional broadcasting industry. New interactive forms of content will be found on broadband content services delivered to the computer and television as part of a suite of interactive television (ITV) services. The extent and timing of these developments are uncertain and depend upon the rollout of broadband delivery systems and the response of viewers to these systems. There is considerable uncertainty about how much interactivity viewers want on their television screens and how much entertainment they want on their computers, and particularly about the extent to which they are prepared to pay for these services. The opportunities for content owners include:

- the development of material for a range of media platforms — traditional broadcast television, ITV, broadband Internet services and mobile telephony (termed ‘create-publish once’ material); and
- the creation of original ‘stand-alone’ material specifically for the Internet.

The interactive content industry is leading to new industry structures and business models. In particular, an important new group of players is entering the sphere of content development and distribution. These are the ‘enabling’ technology companies, which provide the software and middleware for the new applications. These companies are entering into alliances with broadcasters, broadband network operators and content producers to develop interactive content, with hopes of gaining a share of the potential new revenue streams.

The consensus is that the business model for broadband Internet distribution and interactive television will be a combination of micro-transactions, subscriptions, pay-per-play and advertising. Many observers believe that people will pay if the content is compelling — just as they pay now for some services on the Internet. However, the development of profitable business models will be a slow process, as the large investments in infrastructure initially required are said to leave limited resources available for content. This presents a dilemma because without compelling content many consumers may not be motivated to pay more for broadband Internet connection or for new interactive television services. In the television sphere, progress is dependent upon the availability, cost and take-up of suitable digital reception equipment.

In addition to the difficulties involved in developing revenue models, potential content providers face other obstacles to the realisation of broadband content. These include:

- the costs involved in developing and repurposing content for multiple and often competing platforms; and
- the complex effect copyright and rights management will have on the new delivery systems.

Notwithstanding the many uncertainties, figures from the US, Europe and the UK show an increasing number of householders with broadband Internet connections and digital television services. There is much discussion about determining the 'killer applications' for the new services. Overseas experience shows that games and game shows are successfully drawing viewers. The 10 other genres that lend themselves fairly readily to interactivity are news, sports, reality television, lifestyle and entertainment programming. Experiments continue with drama and while interactive 'soaps' are predicted to be viable, it is widely acknowledged that the genre is not so well suited to interactivity. Broadband Internet content is delivered via dedicated sites and major portals where operators aggregate material from content providers in themed channels. Broadband applications include video-on-demand, live webcasting, computer games, and entertainment and information services. Entertainment content includes short films and animations, and material specifically developed or repurposed for the broadband environment. While some dedicated sites are proving viable, the trend is for content to be syndicated to major networks. The broadband Internet sphere will differ markedly from the open narrowband world in that content will be primarily found in 'walled gardens' — closed networks available on a subscription basis.

There is a very close connection between broadcast television programming and content on broadband services. Interactive or enhanced versions of traditional broadcast programming feature on interactive television services and the 'walled gardens' of Internet content also found on these services are often related to television programs. Developments in Australia are very dependent upon the development of the various platforms. There has been much debate about the low takeup of digital television, the constraints on new services posed by the digital television arrangements and the slow rollout of delivery mechanisms for broadband Internet services.

Broadband Internet in Australia

Broadband Internet connection is at a very early stage in Australia. A limited numbers of households are currently connected. Factors affecting the development of broadband content opportunities include:

- the pace of the rollout of ADSL services;
- the cost to the consumer of broadband connection;
- access to broadband networks for potential content providers; and
- the scarce financial resources available for content development.

It appears that, at least in the early period, the major broadband portals will be similar in terms of content to their narrowband counterparts — they will provide a mix of information and entertainment. Overseas developments and local trends suggest that most broadband content delivered to the computer will be in the form of short films, animations, music videos, magazine-style entertainment material, sports, news and finance, albeit with rich media formats providing a more satisfying, television-like experience. There is considerable interest in repurposed television content, magazine-style entertainment material, and webcasting of festivals and live

events.
Content is mainly sourced from established media players, both Australian and international, because of risks anticipated in working with new players lacking established business models. The situation therefore favours major media companies who have large amounts of content, who work across media, and who are better placed to bear the risks involved in revenue sharing arrangements or low licence deals.

The role of content packagers in providing themed channels of content — already significant in pay television — will also be important in broadband. Network operators are looking to source material from content packagers rather than from individual producers. There is reportedly an interest in sourcing more local entertainment content, such as short films, and material drawn from television programming. However, a lack of local content packagers, as well as limited
funds for content development, seems to be restricting the amount of local content. It may be necessary to consider some form of intervention to encourage the establishment of packagers specialising in Australian content. The Telstra/Beyond Online agreement will hopefully provide a valuable model for other Australian broadband networks and content providers. Interactive television
Overseas, interactive television delivered on digital platforms provides enhanced programming, video-on-demand, access to 'walled gardens' of repurposed web content, t-commerce and services such as email, banking and shopping. The main applications in terms of program content are gaming, game shows, interactive sports and news, with enhanced programming also applied to some other genres such as lifestyle programs and documentaries. While some areas, such as games and betting, are showing promising revenue returns, interactive television — and indeed digital television generally — is not yet profitable in Europe and the US because
of the considerable capital investment involved.

Advocates of interactive television stress that its function is not just to bring the computer to the television screen, and that development of interactive services has to be suited to the viewer's experience of television as a friendly, informal entertainment medium. A major issue is the existence of different software platforms and technologies, which oblige producers to adapt content so that it can operate on competing platforms. There are, however, moves to develop common standards, and also technologies that will adapt content so that it will operate on any platform.
In Australia, the main developments in the interactive television area are Austar's interactive service, the ICE interactive trial and more recently the announcement by commercial free-to-air broadcasters and pay television operator Optus Television of plans to introduce interactive services. Regional pay television operator Austar is moving to two-way interactivity. There is an interactive games channel, an Electronic Program Guide (EPG), and interactivity has been applied to the Weather Channel and to the music channel, Channel V. Future plans include adding interactive applications to the Lifestyle Channel and to news and sports, as well as introducing interactive advertising, retail and banking.

The introduction of interactive television in Australia involves a number of uncertainties, including the cost to consumers of set-top boxes, and the impact of the digital television regulations which stipulate precisely which interactive services free-to-air broadcasters can supply. Enhanced programming will pose a number of challenges for content providers, including questions concerning the ownership of rights, control over enhancements, and how the costs of enhancing

program material will be met.

New media content development

Content owners and developers in Australia are starting to produce or repurpose material with broadband distribution in mind. Some examples include major media companies such as the Australian Broadcasting Corporation (ABC), Fairfax via f2, and AAP; film and television production companies such as Beyond International and Becker Entertainment; new media companies; and specialist sites such as Urbancinefile, online music site, The Basement.com.au, and the innovative film site mysteryclock.com.

Online entertainment was affected by the severe downturn in the dot com sector in late 2000. There are, however, examples of online businesses continuing to develop successful entertainment content for narrowband distribution and also for emerging broadband platforms. It is now common for established Australian film and television production companies to develop related websites for promotional purposes. However, progress is slower in moving to broadband interactive content, with producers acting cautiously in response to financial pressures and uncertainties surrounding the transition to digital television. Established film and television producers consider involvement in new media crucial to the future development of their companies but are often constrained by a shortage of resources.

The sector generally is not well placed to take the risks involved in experimenting with new media. It is unlikely that the market will sustain new players producing specifically for broadband in the foreseeable future. Content providers need to have another business model and work across media sectors or need to tap into other areas such as website development carried out on a service basis. Public support for new media content development is occurring through the ABC and the Special Broadcasting Service (SBS), and via initiatives of the Australian Film Commission (AFC), state film agencies and the National Institute of Dramatic Art (NIDA) in conjunction with the Australian Film Television and Radio School (AFTRS). In all cases, the organisations face budgetary constraints. In comparison with countries such as Canada, public investment in new media content in Australia is modest. A commonly expressed view of industry practitioners is that adequate resources for content development are as crucial to new media as to traditional audiovisual product. Many broadband applications will be in the more commercial areas of programming or in areas where there is a degree of ‘natural protection’, such as news and information services. To achieve diversity in new media content, it will be important that public broadcasters have adequate resources and for the independent sector to be supported to develop innovative media content.

There will be a close relationship between broadcast content and content for new platforms. It will be important for Australia to maintain and develop its audiovisual sector through support mechanisms such as content regulation (albeit adapted to the specific circumstances of digital media), increased levels of subsidy, and to explore ways in which new media content development can better be supported.

There is a need for accurate quantitative and qualitative data about the Australian multimedia content industry. Inevitably, with a snapshot study of this kind, many other areas of research suggest themselves. Research could include:

- the Australian games industry — how it can be positioned to pursue opportunities as

broadband media develop; and new media content development strategies and programs overseas.

Recent developments

On 31 August 2001, the Government announced two initiatives 'to progress the development of content and applications in the creative industries of Australia'. The first is a study to be undertaken by the Department of Communications, Information Technology and the Arts (DCITA) and National Office for the Information Economy (NOIE), on the subject of clusters in the creative digital industries. The Creative Industries Clusters Study (CICS), as it is known, will review Australia's strengths and capabilities in producing digital content and applications, and look at ways the creative industries can form strategic alliances and develop new business models.
The second initiative is the establishment of a new grants program administered by the AFC for the funding of innovative broadband content. A sum of $2.1 million, to be distributed over three years, has been allocated for this. The grants program has been established in recognition of the role of content in driving broadband takeup. Its objective is to enable Australian practitioners to produce local product to compete against work produced overseas. These initiatives have been warmly welcomed. It is hoped that they will provide the basis for substantial, ongoing government support for Australian digital content production and distribution.